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| 10/549,274 | 09/13/2005 | Daisuke Machara | Q90235 | 2469 |

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

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| EXAMINER |
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FISCHER, JUSTIN R

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| ART UNIT | PAPER NUMBER |
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1733

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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| 3 MONTHS | 03/15/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/549,274

Applicant(s)

MAEHARA ET AL.

Examiner

Justin R. Fischer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 9-20 is/are rejected.
- 7) ☒ Claim(s) 4-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 91305.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (US 4,365,659) and further in view of Sakamoto (US 6,321,806) and Mechanics of Pneumatic Tires. Yoshida discloses a runflat tire construction having a pair of crescent-shaped reinforcing rubbers 5 and a pair of ring-shaped projections 4 or rim guard portions. In this instance, Yoshida suggests that the rim guard portions are disposed to have a high rigidity (Column 4, Lines 40-60). While the reference fails to expressly describe the modulus of the rim guard portion in relation to the sidewall, one of ordinary skill in the art at the time of the invention would have found the claimed relationship obvious in view of Sakamoto (Column 3, Lines 5-10) and Mechanics of Pneumatic Tires (Pages 881-884). In particular, the general teachings of Sakamoto suggest the use of a harder rubber for the rim guard portion, as compared to the sidewalls, in order to efficiently prevent the bead from unseating during an underinflated running condition. This teaching fully encompasses the claimed range of two to five times larger (modulus or rim guard as compared to sidewall) and applicant has not provided a conclusive

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showing of unexpected results to establish a criticality for the claimed range (absolute value of modulus or quantitative relationship with sidewall).

3. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida, Sakamoto, and Mechanics of Pneumatic Tires as applied in claim 1 above and further in view of Minami (US 6,079,463). As detailed above, Yoshida in view of Sakamoto and Mechanics of Pneumatic Tires substantially teach the claimed runflat tire construction. However, the references are silent with respect to the inclusion of a pair of narrow reinforcing belts. Minami, on the other hand, is broadly directed to a wide variety of tire constructions and suggests including such a narrow reinforcing belt in order to prevent belt edge separation while maintaining tire weight (Column 1, Lines 5-65 and Column 3, Lines 48+). Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to include a narrow reinforcing belt in the tire of Yoshida. It is emphasized that such belts are extensively used in a wide variety of tire constructions for the reasons detailed above.

With respect to claims 12 and 13, Minami discloses the claimed dimensions (Figures 2-4 and Column 4).

4. Claims 2, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida and further in view of Sugitani (JP 2003146026). Yoshida discloses a runflat tire construction having a pair of crescent-shaped reinforcing rubbers 5 and a pair of ring-shaped projections 4 or rim guard portions. In this instance, Yoshida suggests that the rim guard portions are disposed to have a high rigidity (Column 4,

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Lines 40-60). While the reference fails to expressly suggest the inclusion of a composite reinforcing layer, one of ordinary skill in the art at the time of the invention would have found such a modification obvious in view of Sugitani. In particular, Sugitani suggests the use of a composite reinforcing layer in a rim guard portion (rim protecting bar) in order to increase the compression rigidity in the thickness direction of the guard portion (Paragraphs 7 and 19). It is emphasized that such a benefit is consistent with the desire of Yoshida to form the rim guard portion with a high rigidity. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to include a composite reinforcing layer in the rim guard portion of Yoshida.

As to claims 9 and 10, the layer of Sugitani is seen to be a nonwoven layer in accordance to the claimed invention and can be formed of a plurality of inorganic materials, including carbon fibers and glass fibers. Furthermore, the claimed ranges in regards to diameter and length are consistent with those commonly associated with fiber materials used in the tire industry and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed dimensions.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida and further in view of Sakamoto, Mechanics of Pneumatic Tires, and Sugitani. Yoshida discloses a runflat tire construction having a pair of crescent-shaped reinforcing rubbers 5 and a pair of ring-shaped projections 4 or rim guard portions. In this instance, Yoshida suggests that the rim guard portions are disposed to have a high rigidity (Column 4, Lines 40-60). While the reference fails to expressly describe the modulus of

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the rim guard portion in relation to the sidewall, one of ordinary skill in the art at the time of the invention would have found the claimed relationship obvious in view of Sakamoto (Column 3, Lines 5-10) and Mechanics of Pneumatic Tires (Pages 881-884). In particular, the general teachings of Sakamoto suggest the use of a harder rubber for the rim guard portion, as compared to the sidewalls, in order to efficiently prevent the bead from unseating during an underinflated running condition. This teaching fully encompasses the claimed range of two to five times larger (modulus or rim guard as compared to sidewall) and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed range (absolute value of modulus or quantitative relationship with sidewall).

As to the inclusion of a composite reinforcing layer, one of ordinary skill in the art at the time of the invention would have found such a modification obvious in view of Sugitani. In particular, Sugitani suggests the use of a composite reinforcing layer in a rim guard portion (rim protecting bar) in order to increase the compression rigidity in the thickness direction of the guard portion (Paragraphs 7 and 19). It is emphasized that such a benefit is consistent with the desire of Yoshida to form the rim guard portion with a high rigidity. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to include a composite reinforcing layer in the rim guard portion of Yoshida.

6. Claims 2 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida and further in view of Gardner (US 3,951,192). Yoshida discloses a runflat tire construction having a pair of crescent-shaped reinforcing rubbers 5 and a

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pair of ring-shaped projections 4 or rim guard portions. In this instance, Yoshida suggests that the rim guard portions are disposed to have a high rigidity (Column 4, Lines 40-60). While the reference fails to expressly suggest the inclusion of a composite reinforcing layer, one of ordinary skill in the art at the time of the invention would have found such a modification obvious in view of Gardner (Column 5, Lines 25-40). In particular, Gardner suggests the use of a composite reinforcing layer or chafer strip 27 in a rim guard portion (rim protecting bar) to protect the rim guard portion from excess chafing. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to include a composite reinforcing layer in the rim guard portion of Yoshida.

As to claim 10, Gardner suggests the inclusion of reinforcement, such as nylon monofilaments. It is extremely well known to include a wide variety of reinforcements, including filament fibers, in similar chafing strip layers. It is emphasized that the suggestion of nylon monofilaments by Gardner is exemplary and one of ordinary skill in the art at the time of the invention would have found it obvious to use any of the well known reinforcement materials in the chafing strip layer described by Gardner.

Furthermore, the claimed ranges in regards to diameter and length are consistent with those commonly associated with fiber materials used in the tire industry and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed dimensions.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida and further in view of Sakamoto, Mechanics of Pneumatic Tires, and Gardner. Yoshida

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discloses a runflat tire construction having a pair of crescent-shaped reinforcing rubbers 5 and a pair of ring-shaped projections 4 or rim guard portions. In this instance, Yoshida suggests that the rim guard portions are disposed to have a high rigidity (Column 4, Lines 40-60). While the reference fails to expressly describe the modulus of the rim guard portion in relation to the sidewall, one of ordinary skill in the art at the time of the invention would have found the claimed relationship obvious in view of Sakamoto (Column 3, Lines 5-10) and Mechanics of Pneumatic Tires (Pages 881-884). In particular, the general teachings of Sakamoto suggest the use of a harder rubber for the rim guard portion, as compared to the sidewalls, in order to efficiently prevent the bead from unseating during an underinflated running condition. This teaching fully encompasses the claimed range of two to five times larger (modulus or rim guard as compared to sidewall) and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed range (absolute value of modulus or quantitative relationship with sidewall).

As to the inclusion of a composite reinforcing layer, one of ordinary skill in the art at the time of the invention would have found such a modification obvious in view of Gardner (Column 5, Lines 25-40). In particular, Gardner suggests the use of a composite reinforcing layer or chafer strip 27 in a rim guard portion (rim protecting bar) to protect the rim guard portion from excess chafing. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to include a composite reinforcing layer in the rim guard portion of Yoshida.

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8. Claims 1 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishigata (US 5,769,983) and further in view of Sakamoto and Mechanics of Pneumatic Tires. Nishigata teaches a runflat tire construction having a pair of rubber reinforcing layers 5. While the reference fails to include a rim guard portion, it is extremely well known to include such portions in tires in order to prevent the tire from unseating during an underinflated running condition, as shown for example by Sakamoto (Column 1, Lines 5-10 and Column 3, Lines 1-10). In this instance, Sakamoto suggests that the rim guard portion 9 has a modulus or rigidity that is greater than that of the sidewall. Mechanics of Pneumatic Tires is additionally provided to recognize the common modulus values for sidewall rubber compositions- absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to form the rim guard portion with a modulus greater than 3.0 MPa.

As to claims 14-20, the claims contain a plurality of broad ranges that define a wide variety of arrangements for the rim guard portion. The general teachings of Sakamoto appear to suggest a wide range of arrangements that satisfy the claimed invention. In particular, the rim guard portion appears to have a maximum height (thickness) on the order of the tire maximum thickness and the tire appears to have a generally constant thickness over the cross-sectional area of the rim guard portion. Furthermore, the top plane of the rim guard portion is flat and appears to have a dimension that is slightly narrower than the bottom plane of the rim guard portion.

Regarding claim 20, Sakamoto suggests that the top plane can be curved or inclined, such that the rim guard portion can be viewed as having a "generally triangular sectional shape" (Column 3, Lines 30-35).

Allowable Subject Matter

9. Claims 4-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin R. Fischer whose telephone number is (571) 272-1215. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Justin R Fischer
Primary Examiner
Art Unit 1733

JRF
March 13, 2007